

5        1. A fuel nozzle assembly comprising:

        a first fuel inlet in fluid communication with a first fuel passage and first fuel injection means for supplying a first fuel to a combustor;

10        a steam inlet in fluid communication with a steam passage and steam injection means for supplying steam to a combustor;

        an air passage and air injection means for supplying air to a combustor; and,

15        a means to regulate a steam supply at said steam inlet.

2. The fuel nozzle assembly of Claim 1 further comprising a second fuel inlet in fluid communication with a second fuel passage and second fuel injection means for supplying a second fuel to a combustor;

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3. The fuel nozzle assembly of Claim 2 wherein said first fuel inlet supplies a gaseous fuel to said first fuel passage and said second fuel inlet supplies a liquid fuel to said second fuel passage.

25        4. The fuel nozzle assembly of Claim 2 wherein said second fuel passage is located along a center axis of said fuel nozzle assembly.

5. The fuel nozzle assembly of Claim 4 wherein said air passage is located radially outward of said second fuel passage.

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6. The fuel nozzle assembly of Claim 5 wherein said steam passage and said steam injection means are located radially outward of said air passage.

35        7. The fuel nozzle assembly of Claim 6 wherein said first fuel passage and said first fuel injection means are located radially outward of said steam passage.

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8. The fuel nozzle assembly of Claim 1 wherein said means to regulate a steam supply at said steam inlet comprises a meterplate fixed to said steam inlet, wherein said meterplate has at least one metering hole.

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9. The fuel nozzle assembly of Claim 8 wherein said at least one metering hole has a diameter of 0.25 inches.

10. The method of providing uniform steam flow to a plurality of fuel nozzle assemblies about a gas turbine engine, said method comprising the steps:

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- a. providing a gas turbine engine having a plurality of combustors and a manifold containing steam;
- b. providing a plurality of fuel nozzle assemblies, each of said fuel nozzle assemblies having:

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a first fuel inlet in fluid communication with a first fuel passage and first fuel injection means for supplying a first fuel to a combustor;

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a steam inlet in fluid communication with a steam passage and steam injection means for supplying steam to a combustor;

an air passage and air injection means for supplying air to a combustor;

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- c. providing a means to flow steam from said manifold to each of said fuel nozzle assemblies;
- d. determining a first flow rate of steam through each of said fuel nozzle assemblies;
- e. inserting a meterplate into each of said fuel nozzle assemblies at said steam inlets, each meterplate having a metering hole with an effective flow area that depends on said first flow rate, wherein said metering hole restricts the flow of

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5 steam thereby creating a pressure drop and resulting in equivalent steam flow to all nozzle assemblies;

- f. determining a second flow rate of steam through each of said fuel nozzle assemblies to verify equivalent steam flow to all nozzle assemblies;

10 11. The method of Claim 10 wherein said metering hole in said meterplate increases said pressure drop across said fuel nozzle by a factor of approximately two.